AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

" *O fortunatos nimium sua si bona norint*
" *Agricolas.*" . . . VIRG.

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AGRICULTURE.

From the Columbian Telescope and Literary Compiler.

On Wheel Carriages.

We comply with the suggestion of a friend that we should devote a part of our Compiler to essays on experimental philosophy. For this purpose we have selected the following lecture on wheel carriages, by the very justly admired Ferguson. It will be seen that the writer's ideas of carriage power are in opposition to the uniform practice of the past and present generations; and his reasoning is so apparent, that we can only advocate the old method by the plea, *that what always has been, must be right.* We have seen carriages on Mr. F.'s construction (or with four small wheels) used in some of the northern towns for the transportation of articles from street to street—the purpose to which our drays are applied—but we never inquired of their proprietors whether they possessed superior advantages. Mr. Ferguson's reasoning, we should think, can only be met by actual experiment; and if his mode of construction be found the best, the service rendered would add another chaplet to the wreath which already adorns his memory. The lecture is by no means abstruse; but exhibits that plainness which distinguishes all the author's writings; and will be found highly interesting by the majority of our readers.

[*Ed. Telescope.*

The structure of wheel carriages is generally so well known, that it would be needless to describe them. And, therefore, we shall only point out some inconveniences attending the common method of placing the wheels and loading the wagons.

In coaches, and all other four-wheeled carriages, the fore-wheels are made of a less size than the hind ones, both on account of turning short, and to avoid cutting the braces; otherwise the carriage would go much easier if the fore-wheels were as high as the hind ones, and the higher the better, because they would sink to less depths in little hollowings in the roads, and be the more easily drawn out of them. But carriers and coachmen give another reason for making the fore-wheels much lower than the hind wheels: merely, that when they are so, the hind-wheels help to push on the fore ones: which is too unphilosophical and absurd to deserve a refutation, and yet for their satisfaction we shall show by experiment that it has no existence but in their own imaginations.

It is plain that the small wheels must turn as much oftener round than the great ones, as their circumferences are less. And therefore, when the carriage is loaded equally heavy on both axles, the fore axle must sustain as much more friction, and consequently wear out as much sooner, than the hind axle, as the fore wheels are less than the hind ones. But the great misfortune is, that all the carriers to a man do obstinately persist, against the clearest reason and demonstration, in putting the heavier part of the load upon the fore axle of the wagon; which not only makes the friction greatest where it ought to be least, but also presses the fore wheels deeper into the ground than the hind wheels, notwithstanding the fore wheels being less than the hind ones, are with so much the greater difficulty drawn out of a hole or over an obstacle, even supposing the weights on their axles were equal. For the difficulty, with equal weights, will be as the depth of the hole or height of the obstacle is to the semidiameter of the wheel. Thus if we suppose the small wheel of a wagon to fall into a hole which is equal to the depth of the semidiameter of the wheel, and the wagon to be drawn horizontally along it is evident that a part of the small wheel will be drawn directly against the top of the hole; and therefore all the power of horses and men will not be able to draw it out, unless the ground gives way before it: whereas, if the hind wheel falls into such a hole, it sinks not near so deep in proportion to its semidiameter; and therefore that part of the large wheel will not be drawn directly, but obliquely, against the top of the hole and so will be easily got out of it. Add to this, that as a small wheel will often sink to the bottom of a hole, in which a great wheel will go but a very little way, the small wheels ought in all reason to be loaded with less weight than the great ones; and then the heavier part of the load would be less jolted upward and downward, and the horses tired so much the less, as their draught raised the load to less height.

It is true, that when the wagon road is much up hill, there may be danger in loading the hind part much heavier than the fore part; for then the weight would overhang the hind axle, especially if the load be high, and endanger tilting up the fore wheels from the ground. In this case, the safest way would be to load it equally heavy on both axles: and then, as much more of the weight would be thrown upon the hind axle than upon the fore one, as the ground rises from a level below the carriage. But as this seldom happens, and when it does, a small temporary weight laid upon the pole between the horses would over-balance the danger, and this weight might be thrown into the wagon when it comes to level ground; it is strange that an advantage so plain and obvious as would arise from loading the hind wheels heaviest, should not be laid hold of, by complying with this method.

To confirm these reasonings by experiment, let a small model of a wagon be made, with its fore wheels 12 inches in diameter, and its hind wheels $4\frac{1}{2}$, the whole model weighing about 20 ounces. Let this little carriage be loaded any how with weights, and have a small cord tied to each of its ends, equally high from the ground it rests upon; and let it be drawn along a horizontal board, first by a weight in a scale hung to the cord at the fore part; the cord going over a pulley at the end of the board to facilitate the draught, and the weight just sufficient to draw it along. Then turn the carriage, and hang the scale and weight to the hind cord, and it will be found to move along with the same velocity as at first; which shows, that the power required to draw the carriage is the same, whether the great or small wheels are foremost; and therefore the great wheels do not help in the least to push on the small wheels in the road.

Hang the scale to the fore cord, and place the fore wheels (which are the small ones) in two holes, cut three eight parts of an inch deep into the board; then put a weight of 32 ounces into the carriage, over the fore axle, and an equal weight over the hind one; this done, put 44 ounces into the scale, which will be just sufficient to draw out the fore wheels; but if this weight be taken out of the scale, and one of 16 ounces put into its place, if the hind wheels are placed in the holes, the 16 ounce weight will draw them out; which is little more than a third part of what was necessary to draw out the fore wheels. This shows, that the larger the wheels are, the less power will draw the carriage, especially on rough ground.

Put 64 ounces over the axle of the hind wheels, and 32 over the axle of the fore ones, in the carriage; and place the fore wheels in the holes; then put 38 ounces into the scale, which will just draw out the fore wheels; and when the hind ones come to the hole, they will find but little resistance, because they sink but a little way into it.

But shift the weights in the carriage, by putting the 32 ounces upon the hind axle, and the 64 ounces upon the fore one; and place the fore wheels in the holes: then, if 76 ounces be put into the scale, it will be found no more than sufficient to draw out these wheels; which is double the power required to draw them out, when the lighter part of the load was put upon them; which is a plain demonstration of the absurdity of putting the heaviest part of the load in the fore part of the wagon.

Every one knows what an outcry was made by the generality, if not the whole body, of the carriers, against the broad wheel act; and how hard it was to persuade them to comply with it, even though the government allowed them to draw with more horses, and carry greater loads than usual. Their principal objection was, that as a broad wheel must touch the ground in a great many more points than a narrow wheel, the friction must of course be just so much the greater; and consequently, there must be so many more horses than usual, to draw the wagon. I believe that the majority of people were of the same opinion, not considering, that if the whole weight

of the wagon and load on it bears upon a great many points, each sustains a proportionably less degree of weight and friction, than when it bears only upon a few points; so that what is wanting in one, is made up in the other; and therefore will be just equal under equal degrees of weight, as may be shown by the following plain and easy experiment.

Let one end of a piece of packthread be fastened to a brick, and the other end to a common scale for holding weights: then, having laid the brick edgewise on a table, and let the scale hang under the edge of the table, put as much weight into the scale as will just draw the brick along the table. Then taking back the brick to its former place, lay it flat on the table, and leave it to be acted upon by the same weight in a scale as before, which will draw it along with the same ease as when it lay upon its edge In the former case, the brick may be considered as a narrow wheel on the ground, and in the latter as the broad wheel. And since the brick is drawn along with equal ease, whether its broad side or narrow edge touches the table, it shows that a broad wheel might be drawn along the ground with the same ease as a narrow one, (supposing them equally heavy) even though they should drag, and not roll, as they go along.

As narrow wheels are always sinking into the ground, especially when the heaviest part of the load lies upon them, they must be considered as going constantly up hill, even on level ground. And their sides must sustain a great deal of friction by rubbing against the ruts made by them. But both these inconveniences are avoided by broad wheels; which, instead of cutting and ploughing up the roads, roll them smooth, and harden them; as experience testifies in places where they have been used, especially either on wettish or sandy ground; though after all it must be confessed, that they will not do in stiff clayed cross roads, because they would soon gather up as much clay as would be almost equal to the weight of an ordinary load.

If the wheels were always to go upon smooth and level ground, the best way would be to make the spokes perpendicular to the naves, that is, to stand at right angles to the axles; because they would then bear the weight of the load perpendicularly, which is the strongest way for wood. But because the ground is generally uneven, one wheel often falls into a cavity or rut when the other does not; and then it bears much more of the weight than the other does; in which case, concave or dishing wheels are best, because when one falls into a rut, and the other keeps upon high ground, the spokes become perpendicular in the rut, and therefore have the greatest strength when the obliquity of the load throws most of its weight upon them; while those on the high ground have less weight to bear, and therefore need not be at their full strength. So that the usual way of making the wheels concave is by much the best.

If there be some advantage from small fore wheels, on account of the carriage turning more easily and short than it can be made to do when they are large: there is at least as great a disadvantage attending them, which is, that as their axle is below the level of the horse's breast, the horses not only have the loaded carriage to draw along, but also part of its weight to bear; which tires them sooner and makes them grow much stiffer in their hams than they would be if they drew on a level with the fore axle. And for this reason we find coach horses soon become unfit for riding. So that on all accounts it is plain, that the fore wheels of all carriages ought to be so high, as to have their axles even with the breast of the horses; which would not only give the horses a fair draught, but likewise keep them longer fit for drawing the carriage.

On Parmesan Cheese.

The reader will recollect that Mr. Pickering made some remarks on the making of Parmesan cheese, as gathered from a conversation with Mr. Jefferson, respecting his travels in Europe, when he was there as minister from the United States to the French court. We now submit the following letter from Mr. Jefferson himself, with an extract from his travelling notes, detailing his observations on the subject. The young reader will be at no loss to extract the *moral* conveyed by the example of these eminent men, who in the midst of public duties of the highest political importance, have never thought it too much condescension, to turn aside when opportunities occurred, to treasure up any sort of useful information which might enable them to contribute to the private comforts and unostentatious pleasures of domestic life.

From a highly accomplished gentleman and scholar, who once filled a high station in the government and is now a zealous agriculturist, we heard an anecdote illustrative of the idea, we would here convey, which because it struck us as highly honourable to our country, and creditable to the parties, we may be excused for relating.

This gentleman was entertaining a large dinner party, amongst them all the foreign ministers and many of the most distinguished members of Congress, at the time, with others, Mr. Pickering and Mr. Hillhouse. The host gave the tone and direction to the conversation of the company, and after dwelling for some time on scientific and literary subjects, in which farmers Hillhouse and Pickering, bore a conspicuous and honourable part, he led them to discourse on agriculture—when it came out to the utter surprise of many of the company, more especially the foreign ministers, that these two venerable gentlemen actually participated in the manual labour of almost every operation on their farms. To dissipate all uncertainty on a matter that seemed so inconsistent with the usual habits of men in their station, Mr. Pickering turned to his next neighbour, and giving him his hand, he no longer doubted.

Monticello, Feb. 24th, 1820.

MR. SKINNER,

Sir—A low state of health renders writing slow, laborious and painful; but a friend has aided me by copying from my travelling notes the method of making Parmesan cheese, which you requested.

I attended at a dairy at Rozzano, from sunrise to sunset, made short notes on the spot of what was passing under my eye, and of the information given me by the people of the dairy, and when I returned to my lodgings at Milan at night, I wrote them at full length.

Soon after my return to America in 1789, or a year or two after, I saw in some periodical publication, an account of the making Parmesan cheese, furnished by Dr. Franklin, on the information of some person, who appeared to be well informed. I remarked in it several particulars, which I had omitted to note, which I recollected to be true, and several particulars omitted which I had noted and knew to be true, and thought the two accounts would be useful supplements to each other; there were two periodical works appearing at that time, to one of which I know that Dr. Franklin furnished some papers: these were Carey's Museum, and the American Magazine, it was probably in one of these but possibly in some other, for I have no recollection exactly of the work in which I saw it, but it is well worth inquiry.* I return the letter of Mr. Pickering,† and salute you with esteem and respect. THOMAS JEFFERSON.

Rozzano. Parmesan Cheese.—It is supposed this was formerly made at Parma, and took its name thence, but none is made there now, it is made through all the country extending from Milan 150 miles. The most about Lodi; the making of butter being connected with that of cheese, both must be described together. There are in the stables I saw, 85 cows, fed on hay and grass, not on grain. They are milked twice in the twenty-four hours, ten cows yielding at the two milkings a brenta of milk, which is twenty-four of our gallons. The night's milk is scummed on the morning at day break; when the cows are milked again, and the new milk mixed with the old; in three hours the whole mass is scummed a second time, the milk remaining in a kettle for cheese, and the cream being put into a cylindrical churn, shaped like a grind stone—eighteen inches radius and fourteen inches thick. in this churn there are three staves pointing inwardly endwise to break the current of the milk, through its centre passes an iron axis, with a handle at each end, it is turned about an hour and a half, by two men, until the butter is produced, then they pour off the buttermilk and put in some water, which they agitate backwards and forwards about a minute, and pour it off; they take out the butter, press it with their hands into loaves, and stamp it, it has no other washing. Sixteen American gallons of milk, yield fifteen pounds of butter, which sells at twenty-four sous the pound.

* In Carey's Museum of 1788, we find some remarks on cheese making in general, which were probably communicated by Dr. Franklin, but nothing about Parmesan cheese in particular; we have not been able to find the "American Magazine." There is in the Baltimore library the "Columbian Magazine" but it does not that we can discover contain any thing on this subject. In "The Principles and Practice of Agriculture," we find the subjoined article, which we publish to be read in connexion with Mr. Jefferson's notes.

† Published in the Farmer, page 364.

The milk which after being scummed as before, had been put into a copper kettle, receives its due quantity of rennet, and is gently warmed if the season requires it, in about four hours it becomes a slip; then the whey begins to separate, a little of it is taken out, the curd is then thoroughly broken by a machine like a chocolate mill, a quarter of an ounce of saffron is put to 7 brents of milk to give colour to the cheese. The kettle is then moved over the hearth and heated by a quick fire, till the curd is hard enough, being broken into small lumps by continual stirring; it is moved off the fire, most of the whey taken out, the curd compressed into a globe by the hand, a linen cloth slipped under it, and it is drawn out in that; a loose hoop is then laid on a bench, and the curd wrapped in the linen, is put into the hoop; it is a little pressed by the hand, the hoop drawn tight and made fast; a board two inches thick is laid on it, and a stone on that of about twenty pounds weight; in an hour the whey is run off and the cheese finished.—They sprinkle a little salt on it every other day in summer, and every day in winter for 6 weeks. Seven brentas of milk make a cheese of fifty lb. which requires six months to ripen, and is then dried to forty-five pounds, it sells on the spot for 88 fs. the hundred pound: there are now 150 cheeses in this dairy, they are nineteen inches diameter and six inches thick; they make a cheese a day in summer, and two in three days, or one in two days in winter.

The whey is put back into the kettle, the buttermilk poured into it, and of this they make a poor cheese for the country people, the whey of this is given to the hogs. Eight men suffice to keep the cows and do all the business of this dairy. Mascarponi, a kind of curd, is made by pouring some buttermilk into cream, which is thereby curdled, and is then pressed in a linen cloth.

The ice houses at Rozzano are dug about fifteen feet deep, and twenty feet diameter, and poles are driven down all round, a conical thatched roof is then put over them fifteen feet high. pieces of wood are laid at bottom to keep the ice out of the water which drips from it, and goes off by a sink; straw is laid on this wood, and then the house filled with ice, always putting straw between the ice and the walls' and covering ultimately with straw, about a third is lost by melting; snow gives the most delicate flavour to creams; but ice is the most powerful congealer and lasts longest; a tuft of trees surrounds these ice houses.

Account of the making of Parmesan Cheese.

By Mr. Zappo, of Milan, in answer to queries by Arthur Young, Esq.

From the middle of April, or sooner if possible, the cows are sent to pasture in the meadows till the end of November usually. When the season is past and the snow comes they are put into stables for the whole winter and fed with hay.—Between nine and ten in the morning the cows are sent to water, and then to the pastures, where they remain four or five hours at most, and at 3 or 4 o'clock are driven to the stables, if the season is fresh, or under porticoes if hot; where for the night a convenient quantity of hay is given them. No owner will leave his cattle without great cause, in uncovered places at night. It happens only to the shepherds from the Alps, when they pass, because it is impossible to find stables for all their cattle. For a dairy farm of 100 cows, which yields daily a cheese weighing 70 or 75 lb. of 28 ounces, are wanted 1090 perticas of land. Of these about 800 are standing meadows, the other 200 are in cultivation for corn and grass fields in rotation. Those that are in milk are milked morning and evening, with exception of such as are near calving.

The 100 cows form a dairy farm of a good large cheese: it is reckoned that 80 are in milk, and twenty with calves sucking or near calving. They reckon one with the other about 32 boccalis of 32 oz. of milk. Such is the quantity for a cheese of about 70 lb. of 28 oz. They join the evening with the morning milk, because it is fresher than it was that of the morning and evening of the same day, for the morning milk would be twenty-four hours old, when the next morning the cheese should be made. From the evening milk all the cream possible is taken away for butter mascarponi, (cream cheese) &c. The milk of the morning ought to be skimmed slightly—but every one skims as much cream as he can. The butter is sold on the spot immediately at 24 sous: the cheese at about 28 sous. The butter loses nothing in weight, the cheese loses one third of it, is subject to heat, and requires expenses of service, attention, warehouses, &c. before it is sold; and a man in two hours, makes 45 or 50 pound of butter that is sold directly. However, it is not possible to leave much cream in the milk to make Lodesan cheese, called grained cheese: because if it is too rich it does not last long, and it is necessary to consume it while young and sound.

"Parmesan or Lodesan cheese is made every day in the year with one hundred cows. In winter however, the milk being less in quantity, the cheese is of lesser weight, but certainly more delicate. The morning of the third of March, 1786, I have seen the whole operation, having gone on purpose to the spot to see the whole work from beginning to the end. At 16 Italian hours, or ten in the morning, according to the northern way to account hours, the skimming of that morning's milk, gathered only two hours before, was finished. I did meanwhile examine the boiler or pot. At the top it was eight feet, (English) diameter or thereabout; and about five feet three inches deep, made like a bell and narrowing towards the bottom to about two and one half feet. They joined the cream produced that morning with the other produced by the milk of the evening before. That produced by the last milk was double in quantity to that of the morning milk, because it had the whole night to unite and that of the morning had only two hours to do it, in which it could not separate much. Of the cream, some was destined to make mascarponies, (cream cheese,) and they put the rest into the machine for making butter. Out of the milk of the evening before and of that morning, that was all put together after skimming, they took and put into the boiler 272 boccali, and they put under it two faggots of wood; which being burnt, were sufficient to give the milk a warmth a little superior to lukewarm. Then the boiler being withdrawn from the fire, the foreman put into it the runnet which they prepare in small balls of one ounce each, turning the ball in his hand which he alway kept in the milk entirely covered, and after it was perfectly dissolved, he covered the boiler to keep the milk defended that it might not suffer from the coldness of the season, particularly as it was a windy day. I went then to look on the man that was making mascarponies, &c. and then we went twice to examine if the milk was sufficiently coagulated. At the 18 hours, according to the Italian clocks, or noon, the true manufactory of cheese began. The milk was coagulated in a manner to be taken from the boiler in pieces from the surface. The foreman with a stick that had 18 points, or rather nine small pieces of wood fixed by their middle in the end of it, and forming nine points on each side, began to break exactly all the coagulated milk, and did continue to do so for more than half an hour, from time to time examining it to see its state. He ordered to renew the fire and four faggots of willow branches were used all at once, he turned the boiler that the fire might act: and then the underman began to work in the milk with a stick like the above, but only with four small sticks at the top, forming 8 points, four at each side, a span long each point. In a quarter of an hour the foreman mixed in the boiler the proper quantity of saffron, and the milk was all in knobs, and finer grained than before, by the effect of turning and breaking the coagulation, or curd, continually. Every moment the fire was renewed or fed but with a faggot only at a time, to continue it regular. The milk was never heated much, nor does it hinder to keep the hand in it to know the fineness of the grain, which refines continually by the stick-work of the underman. It is of the greatest consequence to mind when the grain begins to take a consistence. When it comes to this state, the boiler is turned from the fire, and the underman immediately takes out the whey, putting it into proper receivers. In that manner the grain subsides to the bottom of the boiler; and leaving only in it whey enough to keep the grain covered a little, the foreman extending himself as much as he can over and in the boiler unites with his hands the grained milk making like a body of paste of it. Then a large piece of linen is run by him under that paste, while another man keeps the four corners of it, and the whey is directly put again into the boiler, by which is facilitated the means of raising the paste that is taken out of the boiler, and put for one quarter of an hour into the receiver where the whey was put before, in the same linen it was taken from the boiler; which boiler is turned again directly on the fire, to extract the mascarpa (whey cheese) which is a second product eaten by poor people. After the paste remained for a quarter of an hour in that receiver, it was taken out and turned into the wooden form, called sassena, without any thing else made than the rotundity, having neither top nor bottom. Immediately after having turned it into that round wooden form, they put a piece of wood like a cheese on it, putting and increasing gradually weights on it, which serve to force out the remnant of the whey; and in the evening the cheese so formed is carried into the warehouse, where after twenty-four hours they begin to give the salt. It remains in that warehouse for fifteen

or twenty days, but in summer only from eight to twelve days. Meanwhile the air and salt form the crust to it; and then it is carried into another warehouse for a different service. In the second warehouse they turn every day all the cheeses that are not older than six months; and afterwards it is enough if they are only turned every 48 or 60 hours, keeping them clean in particular of that bloom which is inevitable to them, and which, if neglected, turns musty, and causes the cheese to acquire a bad smell. The Lodesan, because it is a province watered, has a great deal of meadows and abounds with cows, its product being mostly in cheese, butter, &c. However the province of Pavia makes a great deal of that cheese; and we Milanese do likewise the same from the side of Porte Tosa, Romana, Ticinese and Vercilino, because we have fine meadows and dairy farms.

[*Forsyth's "Principles and Practice of Agriculture.*]

For the American Farmer.

ON CHICORY AND POT LIQUOR.

The former as a substitute for coffee—the latter a cure for the pip, in poultry.

Winchester, March 10, 1820.

DEAR SIR,

In contributing my testimony in favour of the chicory or succory root, (chicorium intubus) as a partial substitute for coffee, it is not pretended that I shall communicate to your readers any new discovery; but at this time of general calamity produced by the very limited circulation of money, and when prudence and wisdom call for economy and retrenchment, and when all other remedies for the disease have been denounced as totally ineffectual, I hope to be excused by my countrymen, in an attempt to revive an old discovery, which I am strongly induced to believe will save some millions to the citizens of the U. States, although it may diminish the revenue of the government. A neighbour, Mr. R. Heterick, had without my knowledge, procured from my gardener some roots of the chicory, and prepared it according to the direction of judge Cooper, to be found in the first vol. page 326, of his emporium of arts and sciences, and surprised me this morning, with a visit to breakfast, bringing with him the chicory in pieces, and one third of its weight in burnt coffee; my wife was such an *infidel* to its qualities, as a substitute for coffee, or even a partial one, that she at first opposed the grinding of it in our coffee mill, adding, that none of us would drink it after it was made. Mr. Heterick's assurance however, that he had used it in his family, and that all were pleased with it, together with her confidence in his taste and judgment, superadded to my advice, induced her to yield to the experiment; what was our surprise at breakfast to find, notwithstanding the prejudices to be inferred from what has been stated, that she at once became a convert to the opinion in which Mr. Heterick and myself had united, that we never had drank better if as good coffee at any time or place. I should not have troubled you with so minute a detail of circumstances, but that my effort is due to the introduction of this preparation of the chicory into families, and the household goddesses, (in this respect our only oracles) are, and indeed ought to be consulted on so great a change in family economy; you will will render great service, my dear sir, by adding to this scrap of mine, in judge Cooper's paper, which I have quoted. It will there be found that the substitution of chicory for coffee, constitutes but part of its value; the leaf as a green food, or for hay, yields an almost incredible crop, and of so excellent a quality, as to be greedily devoured by cattle of all kinds—under the impression that you will publish the paper alluded to,* I shall close my remarks on the chicory, and proceed to a fact which took place at my plantation during the last year, of some value to be known, if the conclusion drawn from it be a correct one; if not no injury will result from repeating the experiment. My manager has lived with me ten years, and near the house where his wife raised chickens, turkeys, &c.—the land has been long cleared, it is generally, if not universally true, that poultry on old farms are subject to the pip; until last year the manager's wife had been always unsuccessful in raising chickens, particularly in consequence of this fatal malady; last spring and summer she was astonished to find, out of how many dozen I don't now recollect, that she had not lost one by that disorder, and ascribes it exclusively to their drinking pot liquor. I asked her if her success might not have been attributed to the drought? or some other cause, her reply was, that whilst she had lived on the farm, there had been some years nearly as dry as the last, (for we were more seasonable than some of our neighbours) and by means of boarding many workmen and having a profusion of pot liquor, always accessible to the poultry, and observing them to use it freely, she had no doubt that this was the cause of their unusual health. I repeat that the experiment will be perfectly innocent, and if it should result in being a complete remedy to disengage the worm† (supposed to be the cause of the pip) from the throat of the fowl, much good will have been done by the communication of the fact.

Respectfully yours,
H. HOLMES.

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* It shall be done hereafter. *Ed. Am. Far.*

† Speaking of the worm induces us to suppose that judge Holmes means the gapes not the pip. *Ibid.*

For the American Farmer.

On Chesnuts, Locusts, &c.

[Useful and interesting remarks on the measurement of land, the coffee nut tree, grafting hickory nuts, chesnuts, &c. &c. On budding, in general, and a comparison of fences, of different kinds, with observations on planting chesnuts and locusts.]

Mr. Skinner,—With this you will receive a manuscript table of squares in an acre of land, from one to forty feet, and which I hope you will find correct.

I had so frequently in the course of agricultural and planting experiments to make these calculations that about the year 1796, I determined to complete a table, which should be always ready.

I now place it in your hands, upon express conditions, that you will print one half sheet with these tables, with as large type as the half sheet will admit of to include all the calculations; that you will page it in a form which will enable your subscribers to fold the paper in the manner of a small pocket almanac, that you will send to each of your subscribers one of these copies; and lastly, that you will return to me the manuscript, together with two printed copies, stitched in stiff marble covers, in the form of small almanacs.*

You will also receive twenty-seven pods of the Guilandinia Dioica, (Hardy Bundoch, or Kentucky Coffee tree,) commonly called the Bondock. The wood is hard and very coarse grained, and I should suppose it a durable forest. It is a quick grower, but not very ornamental, and apt to throw out suckers at a considerable distance from the tree.

I also enclose to you a few seed of a clover, brought from Italy by Mr. Hand, from Chestertown, and presented to me by Dr. James M. Anderson, of that place, who has ascertained that it is a perennial plant, extremely luxuriant and productive, possessing this advantage over our clovers, that it arrives at perfection the first summer after the spring seeding. If I am not mistaken it grows in the vicinity of Naples. I will thank you to forward to the Agricultural Society of South Carolina, at Charleston, in your own name the few seed folded for them, and when you have ascertained the true character and name of this plant let us hear from you.

In answer to "A Subscriber," in No. 50, I can inform him, that neither walnuts or mulberries, will take by grafting or inoculating. In these arts I consider myself an adept, but after experimenting for forty years, I have never succeeded in one instance. I am of opinion they can only be propagated by seeds, layers, or inarching.—Let me recommend to all who are in the practice of budding, to wrap with coarse strong woollen yarn, doubled and twisted, such as is used for the coarsest negroes stockings. It is not only necessary that the end should be made tight, but that the air should be excluded from the cut; the yarn wraps closer and neater than any other string, and will yield a little to the growth of the stock; let me also add, that I never take the wood from the bud.

Of the Jugluses Regia, most improperly called English walnut, I have two favourite young trees. I met with the nuts on a huckster's stall, in Philadelphia, they were quite as large as any two American nuts which I ever saw, and at the same time with a thinner shell—they came from France, perhaps you can influence some public spirited merchant to import these fine nuts from Bordeaux.

I also have two trees of the large Spanish Chesnut, one the size of a man's wrist. Their growth is quicker than our native chesnut, and near Wilmington, Delaware, some have produced fruit, but if I am to judge from the specimen sent me, the fruit is not so large as the imported. Who has succeeded in grafting or budding chesnuts?

A few words on fencing. Circumstanced as Mr. Holmes is, *he* may find it advantageous to

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* This shall be attended to. *Ed. Am. Far.*

erect stone fences. Of this article to my sorrow I do not own any, but I am the proprietor of extensive and admired thorn hedges: objections offer to both stone and thorn enclosures. Rats, mice, and ground squirrels, are the steady inhabitants of the former, and the latter require constant care and attention to lay, trim, dress up banks, and grub up briars and intruding wood, sown there by birds. Without this neat care they become ragged, and hogs and cattle find passages through them. The duration of a post and rail fence made from red or black oak rails and white oak posts, cannot be relied upon after eleven years, and is an expensive fence to erect; a five rail fence of rails and posts, from chesnut and locust, is perhaps the neatest and best of all fences, but if you have the materials to purchase, it will be like the Indian's gun.

If a man of fortune and taste, is desirous to embellish a favourite spot without regard to cost, I advise him to make all his enclosures of post and rail, but if the proprietor of an extensive farm, wishes to be upon good terms with his neighbours, to sleep quietly in his bed, and to sell much with the least cost, let him stick to the substantial and old fashioned worm fence; a fence which requires but little skill to erect, can be made from the most dissorted materials; is most easily repaired and can be as easily removed, either to change the form of the fields, to plough up and remove the rich soil of the headland, or for the purpose of removing briars, &c. Make a worm fence from young chesnut timber, and give good size to the rails, and it will not be unreasonable to allow thirty years duration for such a fence.

Every farmer however, should appropriate a certain portion of land for chesnut and locust—and if once growing and enclosed, they are planted for endless time, for if cut at the proper season the tree is certainly renewed with increased vigour.

At fifteen feet apart, ten acres will contain 1930 chesnut trees, the growth from the nut is indeed slow, and perhaps it will require 20 years to give you two rails from each tree, but the succeeding twenty years will as certainly give you eight rails from each stump, or 15440 rails.—They will however grow just as well at ten feet apart, and of course at the same periods, give you 8,700 and 34,800 rails.

An acre of locusts at six feet distance, will give you 1210 trees, or 6050 trees for five acres; but as chesnut does not require the best land, locust must have land of good quality, rather low, but not wet, and if light as well as rich, all the better. The advantage of planting at six feet must be manifest. They are drawn up straight, and the nourishment which forms innumerable useless branches when growing on fence rows, is thrown into tall trees suitable for posts. With proper care, I will ensure to you at the end of 15 years, as many prime posts as you have trees growing, besides a great number of tops suitable for rails, as well as the most lasting crotches, always useful upon a farm, you may cut every 10th year.

I have commenced my chesnut planting in boxes, made of the coarsest materials; of the chesnuts which I barreled up with dry sand, a great many float and are thrown away, such as sink, are as fresh as if just taken from the tree. You shall be informed of my success.

Your obedient servant,

A SUBSCRIBER.

FOR THE AMERICAN FARMER.

On Hedging, No. 7, and last.

[Continued from page 404.]

By Caleb Kirk, of Delaware.

As a comparative view was given in number 44, of the Farmer—I had not intended to have made further calculations respecting rail fences, and live ones; but some of my neighbours practical hedgers, seemed desirous the subject should be carried to the extent of some of our small farms at least.

As farms are divided amongst heirs by virtue of our state laws, many of them are now not more than from one to two hundred acres.

We shall take one of a hundred acres as a rule to try the difference of expense in making the first fence of each kind, supposing it without fence: according to our mode, it would be divided into ten acre fields, say ten divisions including wood land, which must also be enclosed, would take 2500 pannels of post and rail fence, at 75 cents, amount to $1875 for the enclosing and dividing 100 acres, no allowance for half the line fence maintained by adjoining neighbours: because the *homestead* and the public roads, would in nine cases out of ten, cause more fencing to the owner than half his lines.

The live fence agreeable to the foregoing estimate of $24 75 for 60 perches, would amount to $1031 for the finished hedge, at seven years old, leaving a balance in favour of the hedge, as follows:

Rail fences,	$1875
Thorn hedge,	1031

Six wooden fences in succession of oak, the common kind, in our best farming land, would not last more than 100 years. - - - $1875
6

Cost of Fences in one century, Dr. - $11,250

Balance $844 in favour hedging producing an interest of $50 64 cts. annually, which in one century amounts to $5,640.

Note. The balance in favour of live fences at the end of seven years, enclosing a farm of one hundred acres, would be *eight hundred and forty four dollars*; a handsome thing for a young farmer to receive $60 64 cts. interest upon annually, to aid in other improvements. On the other hand the decay of wooden fences would be gradually adding to his burthens undiscovered, to say nothing about the consumption of timber, that would be accumulating in value, and at the close of one century, would bring his farm in debt $11 250 or half that sum at the end of *fifty* years, which might be probably within his own lifetime $5,625; these are considerations worth paying some attention to.

The annual trimming of hedges, is considered not to exceed the repairs of the wooden fences, according to the best of my judgment, in expense. I have since making the above estimate, consulted several practical men on this head, and they all agree with me in my calculation.

The only question is *durability*; which is thrown in the opposite scale at random. I feel less doubt the longer my experience continues; my inquiries of Europeans on that head, have been satisfied, so far as memory and records can shed light on the subject; one instance of 300 years is quoted, another of 600, in the writings belonging to land Titles, these remained good hedges when my informants saw them.

This part of the subject, requires all the light that can be had to remove doubts; I hope it will not be withheld by those in possession of any thing further, to satisfy doubts that may yet remain.

ON CLAY ASHES,

USED AS A MANURE,

One of the most valuable discoveries that ever has been made in Agriculture.

Cally, January 28th, 1815.

Having had occasion for some years past to go repeatedly to Ireland, I was struck with the method adopted in some parts of that country of burning clay, and making use of the ashes in preference to lime, of which there is such abundance. The method also adopted of causing the clay; just as it is dug out of the ground, without the assistance of one combustible, and without preparation of any sort, to burn of itself, arrested my attention; and having witnessed the crops of wheat and corn of every description, as well as flax and potatoes, luxuriant almost beyond credibility, produced from stiff clay soils, without the aid of any other manure than ashes so obtained, I determined to make the experiment at home; and accordingly on my return, I commenced operations, and have practised the burning of sub-soil for three years, with the greatest success. I was at first puzzled for want of clay but I hit upon a vein or bed of tenacious sub-soil, partly tile and partly clay, which answers the purpose quite well, though I do not apprehend it is so good as clay. The ashes I have hitherto applied solely to the production of turnips, but within the last ten days, I have laid nearly 500 cart loads on grass lands, as a top dressing; my turnip crop from ashes have far exceeded any thing of the kind in this neighbourhood. I was twice in London in the course of last summer harvest, and on my way to and from town, I saw no turnips superior, hardly any equal to my crop, though I passed through Berwickshire and Northumberland. Last season by way of experiment, I manured part of a turnip field with well rotted stable dung, which was ploughed in the same day it was laid out, the remainder with ashes;—the seed which was of the yellow field sort, was sown on the same day: that sown on the ashes sprung up much earlier than that on the dung, continued more vigorous during the season, and when I pulled them lately, the turnips produced from the ashes, were more than double the size of those from the dung. I regret that I did not weigh the produce of each, but I have marked off a square chain of Swedish, which I mean to weigh, to ascertain the produce per acre.

Excepting myself no person has hitherto practised the burning clay or sub-soil in this country, till last season, when I prevailed on Mr. John

Wallace, in Toughland Parish, to try the experiment. Though it was about the beginning of May, before the burning commenced, yet Mr. Wallace obtained as many ashes as manured 20 acres. Notwithstanding the turnips were later of being sown than usual, and were too long in being hoed, Mr Wallace obtained for them the second premium for green crop, from the agricultural society in the Stewartry, and since that time, the Highland Society, have awarded him their first premium. Mr. Wallace has a considerable quantity of ashes on land for his Swedish turnips this season, and he means to have at least 60 acres of turnips from ashes. So fully convinced is he of the superior efficacy of clay ashes, that he has repeatedly declared to me, he would not now be at the trouble of carting dung from Kirkcudbright to his farm, though only one mile and a half distant, even if he were to get the dung in as a present. To burn the clay has cost me one shilling per cart load.—Mr. Wallace laid on at first 45 cart loads to the acre, and diminished the quantity to 30. I laid on, however, a much larger quantity; but I should imagine that from 40 to 50 loads per acre, would be a fair dose for our light soils.—To you who have experienced the beneficial result of ashes obtained by paring and burning the surface, it is needless to have said any thing in favour of ashes obtained from burning sub-soil, or to mention the facility which they afforded to the green crop system, to an extent not hitherto contemplated; I may however mention, that this year by means of ashes, I was enabled to raise three times the quantity of green crop that I had of white crop, and though my farm is no doubt of small extent, still it shows what may be done on a larger scale, where greater facilities can be obtained. Though I do not apprehend that any written account I can give you, will afford half so satisfactory an idea of the method of burning clay, or any kind of sub-soil of moderate tenacity, as ocular inspection of the work, yet I shall give you the best description I can. The general method of proceeding to work, is to make an oblong enclosure of the dimensions of a small house (say 15 feet by 10) of green turf sods raised to the height of 3½ to 4 feet. In the inside of this enclosure air pipes are drawn diagonally, which communicated with holes left at each corner of the exterior wall. These pipes are formed of sods put on edge, and the space between them so wide only, as another sod can easily cover. In each of the four spaces left between the air pipes and the outer wall, a fire is kindled with wood and dry turf, and then the whole of the inside of the enclosure, or kiln, filled with dry turf, which is very soon on fire, and on the top of that, when well kindled, is thrown the clay in small quantities at a time and repeated as often as necessary, which must be regulated by the intensity of the burning. The air pipes are of use only at first, because, if the fire burns with tolerable keenness, the sods forming the pipes will soon be reduced to ashes. The pipe on the weather side of the kiln only is left open, that the mouths of the other three being stopped up, and not opened except the wind should veer about.

As the inside of the enclosure or kiln, begins to be filled up with clay, the outer wall must be raised in height, always taking care to have it at least 18 inches higher than the top of the clay, for the purpose of keeping the wind from acting on the fire. When the fire burns through the outer wall, which it often does, particularly when the top is overloaded with clay, the breach must be stopped up immediately, which can only be effectually done by building another sod wall from the foundation, opposite to it, and the sods that formed that part of the first wall are soon reduced to ashes. The wall can be raised as high as may be convenient to throw on the clay, and the kiln may be increased to any size, by forming a new wall when the previous one is burnt through. I have had kilns so wide as to afford space for a horse and cart to turn on them; but when they are so broad, it requires the workmen, to walk on the top of them, when feeding with clay, which I would not recommend, because the more loosely the clay can be laid on, the more rapidly will it burn. I did not take all the trouble above stated with my kilns, having the advantage of a quantity of old moss sticks and tree roots, which I split, I kindled a large parcel of them, and surrounded the fire with a quantity of dry turf, and, as soon as it was well kindled, I built round it a strong wall of sods and went on, adding clay to the fire and sods to the outer walls when necessary, till the kilns were so large as to contain 100 loads of ashes.—The principle secret consists in having the outer wall made quite close and impervious to the external air, and taking care to have the top always lightly, but completely covered with clay, because if the external air should come in contract with the fire, either on the top of the kiln, or by means of its bursting through the sides, the fire will be very soon extinguished; in short the kilns require to be attended nearly as close as charcoal pits. Clay is much easier burnt than either moss or loam—it does not undergo any alteration in its shape, and on that account allows the fire and smoke to get up easily between the lumps,—whereas moss and loam, by crumbling down, are very apt to smother the fire, unless carefully attended to.

No rule can be laid down for regulating the size of the lumps of the clay thrown on the kiln, as that must depend on the state of the fire; but I have found every lump completely burnt on opening the kiln, and some of them were thrown on larger than my head. Clay no doubt burns more readily if it be dug up and dried for a day or two before it be thrown on the kiln, but this operation is not necessary, as the clay will burn though thrown on quite wet. After a kiln is fairly set a going, no coal or wood, or any sort of combustible is necessary, the wet clay burning of itself, and it can only be extinguished by intention or by the carelessness of the operator,—the vicissitudes of the weather having hardly any effect on the fires, if properly attended to. It may perhaps be necessary to observe, that when the kiln is burning with great keenness, a stranger to the operation may be apt to think the fire is extinguished; if, however, any person either through impatience, or too great curiosity, should insist on looking into the interior of the kiln, he will certainly retard, and may possibly extinguish the fire;—For as I mentioned before the chief secret consists in keeping out the external air from the fire. In East Lothian, where there is abundance of clay and no great quantity of green turf, it would perhaps be best to burn the clay in draw kilns the same as lime; and I apprehend your friend Mr. Bogne, will adopt that method.

I am no chemist, but I suppose the sub-soil burnt in those kilns, is superior to the surface burnt in open heaps, which is the general mode of burning in this country, in proportion as it contains a much greater quantity of carbon, which combining with oxygen gives out carbonic acid, and these, as you know, according to recent discoveries in chemistry, form the food of vegetables. By having kept my eyes open during my first visit to Ireland I consider that I have rendered my neighbours two essential services; the first by showing them how to convert at a moderate expense the most barren sub-soil into excellent manure, the other by bringing into notice the external application of green liverwort (liches vulgevris) as an infallible cure for the dropsy. I was laughed at when first I broached these matters, both by the agriculturist and medical practitioner; but having witnessed the successful results of both, I determined to persevere in spite of the ridicule with which I was assailed, and now the most eminent physician in the south of Scotland has declared, that he could not reconcile it to his conscience not to apply liverwort in every case of dropsy, in which he may be consulted; and clay ashes bids fair very speedily to come into equal estimation with the agricultural world.

I am, &c.

ALEXANDER CRAIG.

To *Edward Boyde*, Esq. of Merton Hall, near Newtown, Steward.

The greatest part of the above letter was published in the 4th Vol. of the Memoirs of the Philadelphia Society for the promotion of Agriculture.

Cancer Plaster.

Mr. Skinner,—Some years past, the late Dr. Littlejohn gave the subscriber a prescription, which is called "Logan's cancer plaster," assuring him that he had found it an admirable composition for removing hard tumors—having occasion for such applications, I have used it in several cases with complete success; two of them I am satisfied would have been the subjects of the knife, but for this most excellent composition. Although there are some very excellent lead plasters and ointments in the London and Edinburgh Dispensatories, yet there is none exactly like this in consistence and quality.

The method of preparing it by boiling oil to a consistence over the calces of lead being very tedious, I substituted the following short process.

Take common Diachylon -	4 ounces
Castile Soap - - -	½ ounce.
White Lead, ground (as in kegs) in oil - - - -	3 ounces.

Break the Diachylon into small pieces, and put it into a plate with two or three teaspoonsfull of water, set this on a stove to melt, very gently stirring it as it melts, when melted, add

the soap scraped into the finest shavings, and stir it till it be thoroughly incorporated, and then add the white lead, stirring the whole, till it forms one uniform mass. MEDICUS.

FOR THE AMERICAN FARMER.

On Barley as a Fallow crop.

Brandywine, 5th, 3mo. 1820.

Esteemed Friend,—Having made some reply to "Sidney's inquiries concerning a substitute for oats as a fallow crop, Number 40.

I have since had communications *direct* on that subject, and I find from this circumstance, the culture of the spring barley, is very little known or understood in some parts of Maryland and Virginia, which climate I should suppose is friendly to its growth, and much of the soil, I have no doubt, if properly managed, would produce a good return.

I shall for the benefit of those who are desirous of making a trial, quote some experimental facts relative to the culture of barley that have come immediately under my notice, as it regards *exhausted land*; because the general impression, even in my own neighbourhood is, that it is useless to sow that grain, unless in a rich soil, which I believe to be an erroneous impression—we will readily acknowledge a soil abounding in fertilizing properties, needs very little aid nor we instruction how to cultivate.—But having fourteen years past, been a manufacturer of that grain, and in the practice of receiving it from farmers on different soils and distant neighbourhoods, I have found in many instances, as well from my own culture, as that of others, that upon land *newly improved* from a state of poverty, the heaviest grain is obtained; that is *the heaviest in the bushel*. I am ready to believe this rule will hold good as it respects wheat, and other grain, but as it respects barley, I think there need be *no doubt* that a rich soil forces up too much straw, this being weak often falls with rains and winds, that happen near harvest, before it is filled; consequently the grain is light; or if it should continue upright, it is so crowded by its luxuriance of straw, that the grain cannot obtain that degree of perfection it otherways might. The latter is matter of opinion, the former are facts. I often received the best grain from *some* of the *small* farmers, who were careful, but not yet arrived at eminence, by raising large crops. An example of this sort was given in the course of my remarks on this subject, page 396 of the Farmer.

The foregoing facts are related with correctness, and may be some guide for the owners of much of the exhausted land in Baltimore and Hartford counties, in the vicinity of one of the best markets in the United States. Barley would be one of the crops that would assist in the renovation of those miserably exhausted fields if judiciously cultivated—there is no grain we sow, that is so friendly to clover as the spring kind; and rolled after sowing, so as to pulverise every clod, there is no other crop that keeps the soil as mellow, it consequently holds more moisture in a dry season—as a further proof of this fact, I would suggest a trial of oats and barley, side by side; when taken off, cross plough the ground plot, they both grow on and their state will readily decide in favour of the barley crop.

There are some very judicious remarks in Number 40, on the subject of destroying garlic, by Thomas E. Bond, (taken from Niles's Register) by frequent ploughing, and exposing to the winter frosts, and sowing oats and other crops while in culture: I can subscribe to the efficacy of the plan, but instead of oats as an *exhausting* crop which *he allows*, I would propose the spring barley, which is considered rather a preparation crop than an exhauster.

But good and effectual ploughing is essential to prevent the garlic from seeding amongst wheat; my land has plentifully abounded with that unpleasant root. Though no injury in grain crops since the culture of Indian corn, barley and wheat in rotation, not a single head is to be found, where good ploughing is attended to. It has become proverbial amongst millers when they see garlic in grain, that bad farming or rather bad ploughing is the cause; and it is so well understood in my neighbourhood, that a farmer to bring grain to mill mixed plentifully with garlic, would be ridiculed for his slovenly farming. Winter ploughing, if the land is light, may be sown with barley as early as dry enough in the spring, with harrowing alone; but if heavy soil it will need the plough in the spring. The fall ploughing exposes to the operation of frost, and improves the succeeding crop of barley evidently; I have observed the difference to a single furrow in favour of fall ploughing in several instances.*

Another advantage is the forwarding the business which comes on in the spring, in succession as rapid as the time will admit, to give every crop its due portion of labour in time, the autumnal ploughing which may be done with great despatch in the stalk ground when dry, is often wet so late in the spring, as to prevent sowing in due time, (which was the case last spring, scarcely a furrow was ploughed before the beginning of the 4mo. (April) the ground, was too wet to admit sooner, consequently too late for good barley.

The present season opens early, some are sowing now, I sowed the 27th of last month and shall continue at different times through the present month (March) if weather permits, the results will be noted, and if worthy of communicating, shall be made known.

The northern states are reputed best for this grain, they generally cultivate the 2 rowed kind; the best I have observed was from New-Hampshire—yet some particular crops of my neighbourhood are perhaps equal to the greater part of the northern barley.

There is no other grain varies so much in quality, as barley—whether from soil or from culture, I am not able to ascertain fully, but there is from ten to twenty-five per cent difference in the real value of what passes for merchantable barley; by divesting it of the husk effectually and preserving the kernel or grain undiminished, the weight proves the comparative value of nutritive substance for any purpose of food, either in a liquid or in a more substantial form as bread.

Although the grain is much more compact than wheat, being harder to grind, and will outweigh when divested of the hull—yet it is very liable to injury by wet; both the grain and straw are very delicate. The four or six rowed kind, having much beard, retains wet, if laying on the ground, and soon vegetates if not carefully managed in a wet harvest—the two rowed is preferable on that account; dries quicker and not so wasteful in handling; the straw not being so brittle.

If saved without wet, cattle are fond of the straw, and it agrees with them well, having more of a laxative effect than any other kind of straw, they eat it with avidity, after being kept a few days on wheat straw, and it is generally considered good food for store cattle.

I some years past, sowed buck wheat after barley, the shatterings of barley grew amongst the buck wheat; and about the head lands, where it was not smothered by the buck wheat, some heads of barley appeared, *well filled before the frost*, in October, I then thought whether it might not be cultivated as a fall crop, as it would have the cool season to ripen in, but have never made further trial, this not being consistent with our system of farming as a fallow crop. C. K.

P. S I ought here to note to the Editor of the American Farmer, that he has hitherto neglected quoting the price of barley, in the list of Baltimore prices, an omission that would be censurable if the Marylanders and Virginians were barley farmers, but perhaps they might be encouraged—it is a cash article, never less than $1 per bushel until this year

* Notwithstanding there were some disapproving remarks published in the Farmer, a few numbers past, by theoretical reasoning against fall ploughing, as deteriorating the soil.

Facts are stubborn things, and are not to be disregarded. Frost is an auxiliary to the farmer in many ways. *Editor.*

THE FARMER.

BALTIMORE, FRIDAY, MARCH 24, 1820.

TO SUBSCRIBERS IN TOWN.

All subscribers to the American Farmer, who have hitherto received their papers within the city, are requested to call or send for them, at the Book Store of Mr. Joseph Robinson, printer of the work, corner of Belvidere and Market Street. The expense of employing carriers, over balances the profits of the paper, where there are so few subscribers in town.

Advertisement.

Now, as this paper was *candidly* not undertaken with a view to private emolument, so much as with the wish to employ the Editor's leisure hours, in a way that would render real service to the most important class of his fellow citizens; he confidently trusts that they will deal honourably with him. He asks no man to continue his subscription for *charity sake*—far from it. If any one thinks the contents of the American Farmer not *intrinsically worth* the cost of subscription; let him at once decline taking it by a letter to the Editor, on which he need not even pay the postage; but it is expected that those who take the paper, will at once send the amount of subscription—if it never come to hand, still the paper shall be sent. The Subscriber's word shall be sufficient with the Editor; who takes on himself the risk and cost of the mail. We hope no gentleman will give us the useless trouble of sending bills.

Spirit of Improvement.

When patriotic merchants not particularly engaged in agricu ture instruct the masters of their ships to bring home from foreign parts all that is rare and apparently valuable in the way of agricultural productions, we may consider that the spirit of improvement has indeed taken root, and will speedily put forth good fruit.

An instance of this public spirit has fallen under our notice, which not to mention, would be to do injustice to our own feelings, and to withhold pleasure from the numerous friends of agricultural improvement in all parts of the union; though he ventures to do it without the knowledge or consent of Major Isaac M'Kim, of this city, the merchant alluded to

He deposited last week with the editor of the Farmer, to be distributed as might seem best, the following grains received by the brig Octavius, Captain Chandler, from Smyrna.

Wheat, from Smyrna.
Do from the Black Sea, called Ruchen wheat.
Barley, from Smyrna, and
Rye from the island of Naxos.

The Smyrna wheat, the barley and the rye are evidently of very superior quality.

We have caused them to be securely packed up in boxes, and distributed to five agricultural societies in Delaware, Virginia, S. Carolina, Kentucky, and Maryland, and here we would take leave to remark instead of being divided into small parcels amongst a great number of members, it would probably be better to have each parcel cultivated by one, or at most not more than two persons, because when sowed in very small quantities, many of the heads are not struck by the farina, and hence they do not fill. Has not this effect been observed by persons more experienced? When therefore, small quantities only can be had for trial, that small quantity had better not be subdivided; let the experiment be made by one hand, only take care that that hand be a steady and careful one, always exacting a promise to report every particular, whether favourable or otherwise.

☞ We had noticed Mr. French's establishment, for the sale of *Prepared Rye*, at No. 1, Lovely Lane, but want of room compelled us to omit our remarks. We hope Mr. French's undertaking will receive as it deserves, ample encouragement.

AMERICAN BEEF.

It is probable that fatter and finer cattle were never slaughtered in any country than those now to be seen at the slaughter house of Messrs, George and John Rusk.

1. Maryland.—A heifer raised by governor Ridgely, and fatted by John Barney, of Port Penn, Delaware, of the Bakewell crossed with the Gough breed.
2. Delaware.—A cow of immense size, raised and fatted by Mr. Barney.
3. Virginia.—A bullock raised and fatted by Mr. John Wilson, near Jarret's town, Virginia.
4. Pennsylvania,—The tallest bullock perhaps ever slaughtered in any country, raised and fatted by Mr. M'Intire of Chester county.

Hartford County, Md.—A bullock of very superior quality, raised by Mr. Lee.

These prodigiously fine cattle may be seen as above stated, until Saturday morning, when they will be in the Marsh market for sale; where it is hoped for the honour of our city, and the character of our market, they will meet with ready sale, at a fair price. Baltimore may now be considered at least equal to any market on the continent, for the fine quality of its beef and mutton. Of all these animals a particular account will be given in the next farmer.

SECOND VOLUME.

We have on hand a great variety of valuable original essays, and numerous illustrative engravings for the second volume; amongst the latter are cuts of machines used in making turnpike roads, and cleaning new lands, taking up trees and stumps, spliting large timbers, draining marshes, &c. &c. &c.

COMPARATIVE METEOROLOGICAL SUMMARY FOR THREE YEARS;

1817, 1818 and 1819,

NEAR BALTIMORE, MARYLAND.

	Farenheit's Thermometr.		BAROMETER.		Water fallen	State of the Weather.			Prevailing Winds.				REMARKS.
	mean temperate.	greatest cold.	greatest heat.	mean height	extreme range.	mean moisture	in 10ths.	fair days	cloudy	rainy	snow	N. W. quar.	N. E. quar.	S. E. quar.	S. W. quar.	calm -	
Year 1817.	52 1-4°	4°—	92° *	29 in. 75	1 in. 31	31°	48 5 1-2	242	46	6,	13	104	72	94	77	18	Healthy and fruitful. Locust.
1818.	50 1-6	2°—	94 *	29 „ 86	1 „ 59	65	32 6	238	5	64	7	120	70	100	69	6	Healthy and fruitful.
1819.	53 7 12	10° *	98 *	29 „ 85	1 „ 28	37	28 7 1-2	256	51	48	10	109	59	123	58	16	Yellow fever, from July 25 to Oct. 15.

To the Editor of the American Farmer.

A SUBSTITUTE FOR LAMP OIL.

Save carefully the oil from a goose roasted without putting any salt to it, and it will burn in a lamp as well as any oil that that you can purchase at 25 or 33 cents a quart. A fat goose of the large breed we have here, weighing from 12 to 13 lb. the first year, will produce from one pint to a pint and a half of good oil, fit for burning in the lamp.

I have proved the above by actual experiment, this winter, and recommend it to all housekeepers.

Mr. Skinner—If you think the above information worth publishing in your paper, you may insert it under the authority of my name.

I consider it a great acquisition to the middle and southern states, where we have no oil.

I feel persuaded that the oil from the Sturgeon fish, which abounds in the waters of your state, will have the same effect, if tried.

Yours respectfully,
A. ALEXANDER.

March 11th 1820.

Important to Gardeners and Farmers.

The subscriber has just received a letter per ship Belvidera, from his correspondents in the neighbourhood of Liverpool, to whom he sent an order last fall, for garden and field seeds, and fully expected them by the above-mentioned ship; however, his hopes have been quite disappointed, owing to his friends not having received half their stock of seeds, from the grounds in the different parts of the kingdom. In consequence of a severe frost which had prevailed upwards of two months, all the canals and rivers were quite frozen over, and the roads being almost impassable, land carriage would have incurred too much expense on heavy articles, this was the reason why they did not ship by the Belvidera; as the subscriber restricted them particularly to ship no seeds but such as they could warrant genuine, of the different sorts, also fresh and the production of last summer. From what the subscriber himself has experienced, and what he has been credibly informed by others of long experience, both in gardening and farming in this neighbourhood, he has no hesitation in asserting that the greater part of the seeds imported here, are a complete imposition on the public. He can further assert from correct information, that there have been houses in the seed trade, in the habit of shipping old seeds to their customers. The subscriber deems it his duty to acquaint his friends and the public, that by the next ship that offers to take freight for Baltimore, he confidently expects a supply of the most useful garden and field seeds, which he will warrant and sell on the most reasonable terms, and of which he will give due notice through the medium of the several public prints.

ROBERT CABMICHAEL.
74 Baltimore Street, corner of Lemmon.

BALTIMORE,

Printed for J. S. Skinner.

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